90. (New) A method of preparing the isolated antagonist of claim 69, comprising culturing the host cell of claim 89 so as to express said antagonist, substantially purifying said antagonist, and refolding said antagonist.--

REMARKS

Claims 1 to 52 are pending. New claims 53 to 90 have been added herein. Thus, upon entry of the new claims, claims 1 to 90 will be under examination.

Regarding the New Claims

New claims 53 and 69 are directed to isolated prokineticin receptor antagonists. New claims 53 and 69 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; and at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1. New claim 53 also is supported by claim 1 as filed; new claim 69 also is supported by claim 17 as filed.

New claims 54 and 55 depend from claim 53, and new claims 70 and 71 depend from claim 69. These new claims are directed to isolated prokineticin receptor antagonists that contain 6 or more (claims 54 and 70), or 7 or more (claims 55 and 71), amino acids N-terminal to the first conserved cysteine residue. New claims 54, 55, 70 and 71 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, lines 14-15.

New claims 56 and 72 depend from claims 55 and 71, respectively, and are directed to prokineticin receptor antagonists that contains the amino acid sequence MAVITGA N-terminal to the first conserved cysteine residue. New claims 56 and 72 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling

through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, lines 14-15.

New claims 57 and 58 depend from claims 53 and 57, respectively, and are directed to prokineticin receptor antagonists that contain SEQ ID NO:18, or consist of SEQ ID NO:18, respectively. New claims 57 and 58 are supported in the specification, for example, at page 11, lines 20-22.

New claims 59 and 73 depend from claim 53 and 69, respectively, and are directed to isolated prokineticin receptor antagonists that contains 5 or fewer amino acids N-terminal to the first conserved cysteine residue. New claims 59 and 73 are supported in the specification, for example, at page at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, line 10.

New claims 60 and 74 depend from claims 59 and 73, respectively, and are directed to isolated prokineticin receptor

antagonists when the first five amino acids are VITGA. New claims 60 and 74 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and at page 58, Table 1, line 10.

New claims 61 and 62 depend from claims 53 and 61, respectively, and are directed to prokineticin receptor antagonists that contain SEQ ID NO:16, or consist of SEQ ID NO:16, respectively. Similarly, new claims 61 and 62 are supported in the specification, for example, at page 11, lines 20-22.

New claims 63 and 64 depend from claim 53 and are directed to an isolated prokineticin receptor antagonist when residues that differ from residues 7 to 77 of SEQ ID NO:3 are conservative substitutions thereof, or are the corresponding residues from SEQ ID NO:6, respectively. New claims 75 and 76 depend from claim 69 and are directed to an isolated prokineticin receptor antagonist when residues that differ from residues 7 to 77 of SEQ ID NO:6 are conservative substitutions thereof, or are

the corresponding residues from SEQ ID NO:3, respectively. New claims 63, 64, 75 and 76 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1. New claims 63 and 64 also are supported by claims 2 and 3 as filed. New claims 75 and 76 also are supported by claims 18 and 19 as filed.

New claims 65 and 66 depend from claim 53, and are directed to an isolated prokineticin receptor antagonist that contains amino acids 7 to 77 of SEQ ID NO:3 or amino acids 7 to 77 of SEQ ID NO:13. New claims 65 and 66 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-

terminal insertion mutant antagonize the contractile effect of prokineticin 1; and in claims 5 and 4 as filed, respectively.

New claims 77 and 78 depend from claim 69, and are directed to an isolated prokineticin receptor antagonist that contains amino acids 7 to 77 of SEQ ID NO:6 or amino acids 7 to 77 of SEQ ID NO:14. New claims 77 and 78 are supported in the specification, for example, at page 11, lines 16-22, which indicates that prokineticin polypeptides having altered N-terminal sequences can antagonize the smooth muscle contractile activity of wild-type prokineticins; at page 19, lines 15-24, which indicates that prokineticin polypeptides containing at least 10 contiguous amino acids of SEQ ID NOS:3 or 6 can act as prokineticin receptor antagonists to block signaling through a prokineticin receptor; at page 57, line 28, to page 58, line 1, which indicates that an N-terminal deletion mutant and an N-terminal insertion mutant antagonize the contractile effect of prokineticin 1; and in claims 21 and 20 as filed, respectively.

New claims 67 and 68 depend from claim 53, and new claims 79 and 80 depend from claim 69. These new claims are directed to isolated prokineticin receptor antagonists that contain a tag (claims 67 and 79) or that are detectably labeled (claims 68 and 80). New claims 67 and 79 are supported in the specification, for example, at page 21, lines 3-7, which indicates that an isolated prokineticin peptide can be fused to a tag. New claims 68 and 80 are supported in the specification,

for example, at page 16, lines 8-14, which indicates that a prokineticin polypeptide can be labeled with a detectable moiety.

New claim 81 depends from claim 52, and new claim 82 depends from claim 69. New claims 81 and 82 are directed to pharmaceutical compositions that contain an isolated antagonist and a pharmaceutically acceptable carrier. These claims are supported in the specification, for example, at page 42, line 27 to page 43, line 10, which indicates that a prokineticin polypeptide can be a therapeutic compound, and page 44, lines 5-8, which indicates that a therapeutic compound can be formulated in a pharmaceutical composition containing the compound and a pharmaceutically acceptable carrier.

New claims 83 and 87, which depend from claims 53 and 69, respectively, are directed to nucleic acid molecules encoding prokineticin receptor antagonists. New claims 83 and 87 are supported in the specification, for example, at page 10, lines 9-15, which indicates that modifications of prokineticin polypeptides SEQ ID NOS:3 and 6 can be made by insertions, deletions or substitutions of nucleotides in a nucleic acid molecule encoding SEQ ID NOS:3 and 6.

New claims 84 and 88, which depend from claims 83 and 87, respectively, are directed to expression vectors that contain a nucleic acid molecule linked to a promoter of gene expression. New claims 84 and 88 are supported in the specification, for example, at page 26, lines 3, to page 27, lines 9.

New claims 85 and 89, which depend from claims 84 and 88, respectively, and are directed to host cells that contain an expression vector. New claims 85 and 89 are supported in the specification, for example, at page 27, lines 10-22.

New claims 86 and 90 are directed to methods of preparing isolated antagonists by culturing a host cell so as to express the antagonist, substantially purifying the antagonist, and refolding the antagonist. New claims 86 and 90 are supported in the specification, for example, at page 27, line 23, to page 28, line 2; page 53, line 14, to page 54, line 11; and in claim 15 as filed.

Amendment to the Sequence Listing

Substitute sheets of an amended Sequence Listing together with an amended electronic form of the Sequence Listing have been submitted in a concurrently filed Communication. A copy of the substitute sheets of the amended Sequence Listing are provided herewith as Exhibit A for convenience.

The substitute sheets of the Sequence Listing reference by SEQ ID NO three amino acid sequences that were disclosed in the specification as originally filed, but not referenced in the originally filed Sequence Listing. Newly added SEQ ID NO:20 corresponds to amino acid sequence MAVITGA, which is disclosed in the specification on page 58, Table 1, line 14. Newly added SEQ ID NO:21 corresponds to amino acid sequence AVITGA, which is disclosed in the specification on page 58, Table 1, line 6.

Newly added SEQ ID NO:22 corresponds to amino acid sequence VITGA, which is disclosed in the specification on page 58, Table 1, line 10. No new matter is introduced by the substitute sheets. Accordingly, entry of the amended sequence listing is respectfully requested.

CONCLUSION

In light of the foregoing amendments and remarks, Applicants respectfully request that claims 1 to 90 be examined. The Examiner is invited to call the undersigned agent or Cathryn Campbell if there are any questions relating to this application.

Respectfully submitted,

December 5, 2002
Date

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USPTO CUSTOMER NO. 23601

SEQUENCE LISTING

<110> Zhou, Qun-Yong
Ehlert, Frederick

<120> Prokineticin Polypeptides, Related Compositions and Methods

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EXHIBIT A

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Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu Pro Asn Leu
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Pro Phe Phe Arg Lys Arg Lys His His Thr Cys Pro Cys Leu Pro Asn
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AMENDMENT TRANSMITTAL LETTER			DOCKET NUMBER: P-UC 5016
SERIAL NO: 10/016,481	FILING DATE: November 1, 2001	EXAMINER: Unassigned	GROUP ART UNIT: 1645
INVENTION: PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS			

TO COMMISSIONER FOR PATENTS

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

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Lisa Oliver
(TYPED OR PRINTED NAME OF PERSON MAILING PAPER OR FEE)

Lisa Oliver
(SIGNATURE OF PERSON MAILING PAPER OR FEE)

Transmitted herewith is A Preliminary Amendment in the above-identified application, together with attached Exhibit A.

X Small Entity status of this application has been established under 37 CFR 1.27.

___ Petition for Extension of Time is enclosed (in duplicate).

___ Terminal Disclaimer with fee under 37 C.F.R. 1.20(d) is enclosed.

___ No additional claims fee is required.

X An additional claims fee is required and has been calculated as shown below:

CLAIMS AS AMENDED

	NUMBER AFTER AMEND-MENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		NUMBER OF EXTRA CLAIMS PRESENTED		RATE			FEE	
							SMALL ENTITY	OTHER ENTITY		SMALL ENTITY	OTHER ENTITY
TOTAL CLAIMS	94	-	52	-	42	x	$9	$18	=	$378	$
INDEPEN-DENT CLAIMS	9	-	7	-	2	x	$42	$84	=	$84	$
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			X YES		NO		$140	$280	=	$140	$
							TOTAL ADDITIONAL FEE			$602	$

* If the "HIGHEST NUMBER PREVIOUSLY PAID FOR" is less than 20, write "20" in this space.

** If the "HIGHEST NUMBER PREVIOUSLY PAID FOR" is less than 3, write "3" in this space.

*** If the difference between the "NUMBER AFTER AMENDMENT" and the "HIGHEST NUMBER PREVIOUSLY PAID FOR" is less than 0, write "0" in the space.

___ Please charge my Deposit Account No. 03-0370 the amount of $_____. A duplicate copy of this sheet is enclosed.

EXHIBIT B

_X_ A check in the amount of $602.00 is enclosed, to cover the additional claims fee.

_X_ The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment to Deposit Account No. 03-0370. A duplicate copy of this sheet is enclosed.

_X_ The Commissioner is hereby authorized to charge to Deposit Account No. 03-0370 any fees under 37 CFR 1.17 which may be required under 37 CFR 1.136(a)(3) for an extension of time in any concurrent or future reply requiring a petition for extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Pamela M Guy

Pamela M. Guy
Registration No. 51,228
CAMPBELL & FLORES LLP
4370 La Jolla Village Drive
7th Floor
San Diego, California 92122
858-535-9001
USPTO CUSTOMER NO. 23601

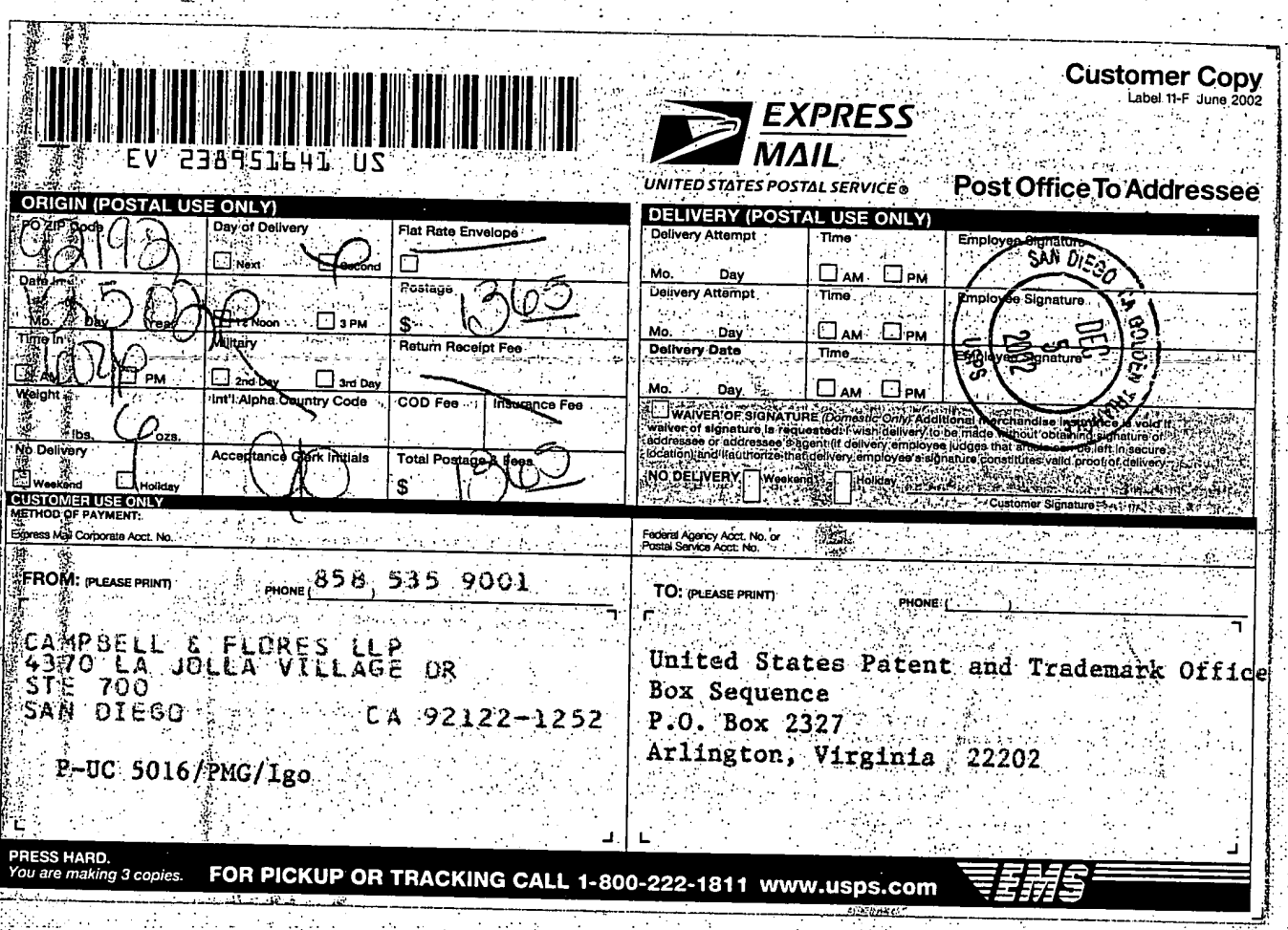

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EXHIBIT C

Please acknowledge receipt of the accompanying:

☐ Response _____

☒ Preliminary Amendment, with attached Exhibit A

☒ Transmittal form PTO-1083 (in duplicate)

☐ Petition for ___ month Extension of Time (in duplicate)

Applicant's Name Zhou and Ehlert

Serial Number 10/016,481 Filing Date November 1, 2001

Examiner's Name Unassigned Group Art Unit 1645

Title PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS

☒ Fee $602.00 Enclosed ☒Check No.: 029821

☒ Certificate of Express Mailing No.: EL 857044663 US

Our Docket No.: P-UC 5016 Date Mailed: December 5, 2002

Date Due: ---------

Client THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

Attorney/Secretary PMG/lgo

Place your receiving date stamp hereon and return this card.

FORM UA Amend/Resp

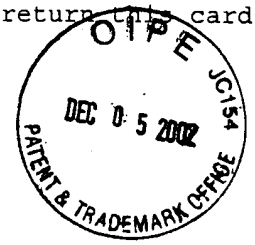

EXHIBIT D

UTILITY PATENT APPLICATION TRANSMITTAL (only for new and continuation-in-part nonprovisional applications under 37 CFR 1.53(b))	Docket No.: P-UC 5016

Address to: COMMISSIONER FOR PATENTS
Box Patent Application
Washington, D.C. 20231

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Elizabeth S. Conaughton
(TYPED OR PRINTED NAME OR PERSON MAILING PAPER OR FEE)

EsCn
(SIGNATURE OF PERSON MAILING PAPER OR FEE)

This is a request for filing a
__X__ new utility patent application under 37 CFR 1.53(b)(1).

____ continuation-in-part under CFR 1.53(b)(2) of prior application serial no. _____, filed _____ (**list entire parentage**).

Title: PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS

Inventor(s)(full name of each inventor): Qun-Yong Zhou and Frederick J. Ehlert

Enclosed are:

X		Return receipt postcard
___		Patent Application Bibliographic Data Sheet
X	1	Page application cover sheet
X	74	Pages of specification (includes claims and abstract)
X	9	Sheets of drawing(s)
___	____	Pages of an executed Declaration for Patent Application
___		An executed Power of Attorney for Patent Application by Assignee
X		Paper copy of sequence listing, pages 1 through 9.
X		Sequence listing in computer readable form
X		Statement Under 37 CFR 1.821(f)
___		An executed assignment and cover sheet
___		An executed Statement Under 37 CFR 3.73(b)
___		An executed small entity statement
___		Request for Nonpublication and Certification
___		Also enclosed: _____

___ This application is based on prior foreign application(s) No.(s)_____, filed in _____ on _____ _____, respectively, and priority is hereby claimed therefrom.

X This application is based on, and claims the benefit of, U.S. Provisional Application No. 60/245,882, filed November 3, 2000, and entitled PROKINETICIN POLYPEPTIDES, NUCLEIC ACIDS, ANTIBODIES, AND RELATED COMPOSITIONS AND METHODS, and which is incorporated herein by reference.

EXHIBIT E

___ This application is based on, and claims the benefit of, U.S. Provisional Application No. 60/_____ (yet to be assigned), filed _____, which was converted from U.S. Serial No. _____, and entitled _____, and which is incorporated herein by reference.

The filing fee has been calculated as shown below:

	Number Filed		Number Extra		Rate			Fee	
					Small Entity	Other Entity		Small Entity	Other Entity
Total Claims	52-20	=	32	x	$9	$18	=	$	$
Independent Claims	7-3	=	4	x	$42	$84	=	$	$
Multiple Dependent Claims Presented: ___ Yes X No					$140	$280		$	$
					BASIC FEE			$370	$740
					TOTAL FEE			$0.00	$0.00

___ A check in the amount of $_____ to cover the filing fee is enclosed.

_X_ The payment of the filing fee is to be deferred until the Declaration is filed. Do not charge our deposit account.

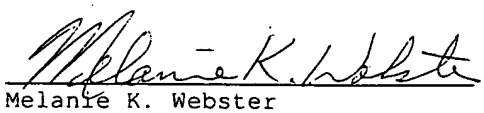
___ The Commissioner is hereby authorized to charge fees under 37 CFR 1.16 and 1.17 which may be required or credit any overpayment to Deposit Account No. _____. A duplicate copy of this sheet is enclosed.

Address all future communications to:

Cathryn Campbell
CAMPBELL & FLORES LLP
4370 La Jolla Village Drive, 7th Floor
San Diego, California 92122
telephone: (858) 535-9001
facsimile: (858) 535-8949
USPTO CUSTOMER NO. 23601

Respectfully submitted,

Date: November 1, 2001



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San Diego, California 92122

PATENT
Our Docket: 66778-126 (P-UC 5016)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Zhou and Ehlert	Group Art Unit: 1646
	Examiner: D. Jiang
	Confirmation No.: 4599
Serial No: 10/016,481	
Filed: November 1, 2001	
For: PROKINETICIN POLYPEPTIDES, RELATED COMPOSITIONS AND METHODS	

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Carrie Hines
(TYPED OR PRINTED NAME OF PERSON MAILING PAPER OR FEE)

Carrie Hines
(SIGNATURE OF PERSON MAILING PAPER OR FEE)

Commissioner for Patents
P.O. Box 1450
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RESPONSE TO COMMUNICATION

Responsive to the Communication mailed April 16, 2003, entry of the following remarks is respectfully requested.

REMARKS

Claims 1 to 90 are pending. Claims 1 to 52 were filed in the subject application, while claims 53 to 90 were filed in a Preliminary Amendment mailed December 5, 2002.

The Communication mailed April 16, 2003, states that there is no record in USPTO files of the Preliminary Amendment to add claims 53 to 90, filed by Applicants on December 5, 2002.

Applicants submit herewith a copy of the Preliminary Amendment, as filed on December 5, 2002, (Exhibit A) together

with the transmittal filed with the amendment (Exhibit B); the United States Postal Service (USPS) Express Mail Post Office to Addressee receipt stamped by the USPS December 5, 2002, (Exhibit C); and the postcard corresponding to the Preliminary Amendment, stamped by the USPTO as received December 5, 2002, (Exhibit D). As evidenced by these documents, Applicants filed a Preliminary Amendment on December 5, 2002, to introduce new claims 53 to 90 into the subject application, and the Amendment was received in the USPTO.

The Communication mailed April 16, 2003, states that Applicants filed a "communication regarding the issue of sequence compliance" on December 5, 2002. Applicants respectfully point out that this statement is incorrect because no communication regarding the issue of sequence compliance has been filed in the subject application. Rather, Applicants filed a sequence listing together with the subject application on November 1, 2001, as indicated on the transmittal submitted herewith as Exhibit E, and subsequently filed a substitute sequence listing on December 5, 2002.

As indicated in Applicants' response filed February 24, 2003, Applicants traverse the restriction requirement contained in the Office Action mailed on January 29, 2003, on the ground that claims 53 to 90 have not been considered. The exhibits submitted herewith clearly document that new claims 53 to 90 were submitted in the Preliminary Amendment filed December 5, 2002, and that the amendment was received in the USPTO. In view of this, Applicants

respectfully request that the Examiner issue a corrected restriction requirement directed to all claims pending in the application (claims 1 to 90).

CONCLUSION

In light of the remarks herein, Applicants request that the Examiner take into consideration the Preliminary Amendment mailed December 5, 2002, and issue a corrected restriction requirement that encompasses all of pending claims 1 to 90. Should the Examiner have any questions, she is invited to call the undersigned agent or Cathryn Campbell.

Respectfully submitted,

May 12, 2003
Date

Pamela M. Guy
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